Washington State On-Site Wastewater Technical Review Committee

Minutes for the February 5-6, 2003 Meeting

Approved on March 12, 2003 by Vote of the Committee

Washington State Department of
Health

Washington State Department of Health
Office of Environmental Health and Safety
7171 Cleanwater Lane, Building 4
PO Box 47825
Olympia, Washington 98504-7825

Tel: 360.236.3062
FAX: 360.236.2261
Webpage: http://www.doh.wa.gov/ehp/ts/waste.htm

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Note: The minutes periodically refer to "Items." Items are documents containing information on a subje ct being discussed. Items, with their descriptions/titles, are noted at the end of the minutes in the section entitled "List of Meeting Materials.

MEETING ATTENDEES

Members Present

1. Kevin Barry, Eastside Env. Hlth
2. Scott Jones, Engineers (Day 1)
3. Melanie Kimsey, Dept of Ecology
4. Eric Knopf, Designers, Installers, O&M
5. Glenn Herriman, Wash. Assoc. of Realtors
6. Bill Peacock, Public sewer utilities
7. Tom Rogers, Proprietary Devices
8. Mike Vinatieri, Westside Env. Hlth

DOH Staff

1. Laura Benefield, Wastewater Program
2. Mamdouh El Aarag, Wastewater Program (Day 2)
3. John Eliasson, Wastewater Program
4. Selden Hall, Wastewater Program
5. Mark Soltman, Wastewater Program
6. Dave Lenning, TRC Coordinator

Guests Who Signed In or Presented

1. Mark Allen, King County Health Dept. (Day 2)
2. Keith Grellner, Kitsap Co. Health Dept.
3. Peter Lombardi, Orenco Systems Inc.
4. Steve Wecker, Onsite Consulting Services

INTRODUCTION

Tom Rogers, Chair, called the meeting to order at approximately 10:15 a.m. on February 5, 2003 and at 8:10 am on February 6, 2003 in the meeting room of the BEST Inn in Ellensburg. The meeting on Day 1 began with brief introductions by each committee member, DOH staff, and the interested parties in the audience.

MINUTES

December 4-5, 2002 Meeting Minutes Adoption – By unanimous vote, the committee approved the December 4-5, 2002 TRC meeting minutes as amended.

ADMINISTRATIVE MATTERS

1. Mark Soltman provided a brief summary of RDC activities
2. Dave Lenning reminded the TRC that he was asked to review the various RS&Gs and examine which guidance documents include a reference to the use of crushed glass as the media in sand/gravel filters. He reported back:
    a. The intermittent sand filter and sand-lined trench RS&Gs specifically state, "Filter media may be mineral sand or equivalently sized crushed glass."
    b. The RS&Gs for stratified sand filters and recirculating gravel filters don't mention the use of crushed glass. They state, "Filter media must meet particle size criteria detailed" in the appropriate appendix.
    c. The mound RS&G doesn't mention the use of crushed glass for the filter media. It states, "Due to limited experience with other grade materials, other filter media must not be used."
3. Dave Lenning handed out a status report noting all of the decisions that have been made by the TRC since it initiated its efforts evaluating technical issues for the rule revision process. See **Item 1**.
4. Because Scott Jones cannot be present on day 2, the agenda was revised to finish most of the discussion on treatment levels on day 1. Also, decisions needed to be revisited on lot sizes and nitrogen. These decisions eventually resulted in the discussion on linear loading rates and storm water being delayed until the April meeting.

SUMMARY OF TECHNICAL DISCUSSIONS

1. **Technical Issue #1 – Treatment Standards 1 & 2**
    a. Mark Soltman briefly explained what had happened since the last TRC meeting - DOH staff had met and developed an option that combined the two options that had been presented in previous meetings. The resulting document was handed out to those who had not received an electronic copy. See **Item 2**.
    b. Mike Vinatieri suggested that a footnote giving fecal coliform numbers for septic tank effluent be added to the table on treatment levels. He indicated that his local health jurisdiction uses fecal counts as signs of fecal contamination and that some numbers would be helpful. The following discussion on his suggestion included:
        - Rather than including it as a footnote, maybe include fecal coliform numbers as part of a definition of septic tank effluent.

- Maybe a Treatment Level E should not be included.
- Treatment Level E sets the baseline so it needs to be included in the list of treatment levels, even though treatment units will probably not be tested to Treatment Level E.
- There was a reminder that the treatment levels, as proposed, are not to be used for collecting samples from existing systems and determining if the system is functioning properly. Instead, the treatment levels establish parameters and numbers for testing the performance capabilities of pretreatment processes before they go into use.
- The chart is intended to be a product-testing chart.
- The footnote for Treatment Level E, currently included with the treatment level list, already states the level is for typical residential septic tank effluent. Maybe the issue could be clarified there.
- **Agreement**: There is an intent to acknowledge that fecal coliform numbers are needed somewhere in the new WAC to better define residential septic tank effluent.

c. Mark presented the proposed treatment levels and discussed the differences from what currently exists.

d. Mark briefly presented the flow of the draft treatment level document, stating that the tables following the proposed treatment levels note the required treatment levels and distribution methods that systems must meet to be used inside and outside Special Water Resource Areas (SWRA). He reminded the committee that the site variables included vertical separation and soil type.

e. Tom Rogers asked whether there would be some objective, formal process for designating SWRAs included in the WAC or will that process be left up to the local permitting agency. Discussion on this topic included:

- Melanie Kimsey stated her concern that if there were not specific requirements, there may not be many formal designations made. She reminded the committee that the "Area of Special Concern" designation in the current WAC had not been used. The designation of special areas needs more definition so it won't be ignored.
- There is general agreement that there are higher risk areas for ground and surface waters. The problem is how do we adequately define such areas and set processes for establishing their boundaries.
- We need to be aware of potential conflicts that are created if we include specific areas designated for other purposes (e.g. Critical Aquifer Protection Areas which are included in the Growth Management Act) in the definition of SWRAs.
- Mark Soltman suggested that SWRA designations/definitions are policy oriented and could be left up to the RDC.
- Scott Jones recommended that the specific minimum number of doses per day (12) mentioned on the page pertaining to areas inside a SWRA be stricken, especially in areas with tighter soils. The requirement for time dosing should remain. Further comments and action include:
  - Eric Knopf asked how we could suggest specific minimums for number of doses per day due to the variable flows from residences.
  - **Motion:** By Scott Jones – The minimum number of doses anywhere in the document should be stricken. This should be left up to the pressure distribution RS&G.
    - **Second:** Kevin Barry

- **Vote:** Yes – 7, No - 0

f. Bill Peacock recommended that the word "unconfined" be added to the definition and examples of sensitive aquifers.

g. Steve Wecker stated that he was an RDC member. He asked two questions:
- An "impact" analysis is required for any changes to the WAC. What is the chance that the "impact" analysis on this topic will result in a cost that may be too high? Is the expense worth the benefit?
- Why is there a distance requirement in addition to a SWRA designation for surface waters? Don't shellfish protection areas already have inland boundaries that this requirement may be extending even further inland?

h. Eric Knopf suggested that the "150 foot" requirement in the surface water SWRA table be redefined to be "150 feet from the high water line."

i. Keith Grellner noted the treatment requirements for soil types 3-6 are the same for both areas inside and outside SWRA.

j. Steve Wecker brought up the situation with watershed control areas designated to protect sources of surface water. He asked whether this means we're pulling back an additional 150 feet from the watershed boundary.

k. Mark Soltman asked if it makes sense to require increased treatment to protective sensitive surface waters. The unanimous response was, "Yes." He then asked how it should be done.

l. Kevin Barry stated that local government needs to go through some local decision making process to define sensitive areas. The WAC should specify generally that sensitive area designation needs to be done when conditions requiring systems providing higher levels of treatment. A guidance document should provide the detail for the process.

m. There was agreement that the committee is a long way from reaching a committee recommendation on the definition of SWRAs and the application of treatment levels to them.

n. Mark Soltman explained the tables on pages 2-3 are a "package deal." The tables are trying to back off some in areas outside a SWRA, but still be stringent with a SWRA.

o. Tom Rogers asked what technologies meet the different levels. John Eliasson provided some examples of technologies meeting the different levels.

p. One change that will occur is that add-on disinfection will not meet the standard without testing.
- Mark suggested that some "grand fathering" might be necessary to implement this to allow proprietary products sufficient time to go through the testing process.
- Steve Wecker stated a concern about the economic impact of this change.

q. John Eliasson briefly went through the tables on page 2 (outside a SWRA). Discussion and action on these tables included:
- Eric Knopf indicated a concern with having deep soil test pits needed to take advantage of the allowances in soil types 1 and 2. This is due vertical separations of 60 inches or more. Discussion on this concluded that the issue needs to be adequately addressed.
- There was clarification that sand-lined trenches also met proposed treatment levels B and C, so they can be used in soil type 1 also.
- Pete Lombardi indicated a concern that a treatment unit may need to be tested with different disinfection devices substantially increasing cost. He recommended the focus should be on time dosing to the treatment process and the requirement for a clarification capability.

- Hopefully, we should be able to test disinfection units and accept their results so they can be added to other treatment units.
- Keith Grellner suggested that flexibility could exist if greater than minimum horizontal setbacks were provided.
- **Motion:** Kevin Barry – Tables on page 2 (the tables that apply to areas outside SWRA) be accepted.
    - **Second:** Mike Vinatieri
    - **Discussion:**
        - Eric Knopf indicated a concern that technologies would be required to be tested with disinfection.
        - Tom Rogers suggested that clarification is needed of the time dosing to drainfields requirement for technologies, such as intermittent sand filters, that are time dosed.
    - **Vote:** Yes – 7, No – 0

r. **Motion:** Mike Vinatieri – the table on page 1 (the suggested listing of treatment levels) be accepted.

- **Second:** Kevin Barry
- **Vote:** Yes – 7, No – 0

s. Mark Soltman asked if the committee could reach agreement on how to describe/define SWRAs. Do the tables on page 3 (inside a SWRA) make sense? The resulting discussion and actions included:

- Kevin Barry suggested that nitrogen should stand by itself. The table for groundwater suggests nitrogen reduction is necessary for all situations. However, areas such as Wellhead Protection Areas do not necessarily require treatment for nitrogen.
- Bill Peacock suggested placing an asterisk wherever an "N" is in the table and qualify that the nitrogen reduction is required only where nitrogen is an identified problem.
- The committee agreed to consider, for the present, the treatment levels for all proposed parameters except nitrogen. Nitrogen will be revisited in the discussion on nitrogen and lot sizes.
- Kevin Barry asked whether the risks justify pressure distribution with time dosing on soil types 3-6 with vertical separations greater than 60 inches. Eric Knopf suggested that leaky toilets would not be caught if time dosing was not included. He finds 90% of alarms are due to leaky toilets.
- **Motion:** by Mike Vinatieri – The two tables referring to requirements inside SWRA be conceptually accepted, with the exception of nitrogen. There needs to be better definitions of SWRAs and methods to help encourage delineation developed.
    - **Second:** Bill Peacock
    - **Vote:** Yes – 7, No – 0

t. Melanie Kimsey summarized the findings from her review of phosphorus. This report was requested because of a previous committee recommendation to not include a treatment level for phosphorus. See **Item 3**.

- Melanie reminded the committee of state legislation that has limited phosphorus in laundry, dishwashing soaps, and detergents since 1994. Due to this law, enforced by DOE, there have been few reported problems.
- Nationally, since emphasis has been placed on reducing phosphorus concentrations in soaps and detergents, there have been significant reductions in phosphorus concentrations (62%) between 1980 and 2002, as noted in the past two USEPA on-site manuals. Soaps and detergents have been the most

significant sources of phosphorus in household wastewater. However, some phosphorus still remains in other household wastewater sources.

- She noted several studies and cases where nitrogen had created environmental and public health impacts.
- Tom Rogers was familiar with one of the case studies and suggested that his observations were that the phosphorus problem was primarily due to many straight pipe discharges into the lake. He believes that the new system requirements will minimize phosphorus discharges even more.
- Kevin Barry questioned the findings of the researcher in the Moses Lake study.
- The committee recognized that phosphorus can create a public health concern, contrary to the minutes of the October 2002 TRC meeting, but agreed that nothing was currently necessary.

2. **Technical Issue #7A – Lot Sizes (Minimum Land Area), together with Technical Issue #23 - Nitrogen**

a. Using his handout ("Review of TRC Decisions on Lot Size") Selden Hall briefly discussed the status of this technical issue, that the committee had already developed a set of recommendations for it. In light of the discussion on treatment levels and the fact that the previous recommendations created some potentially significant changes from current requirements, the recommendations were going to be revisited. See **Item 4**.

b. **Recommendation #1 – Prior to approval of new subdivisions or prior to issuance of an OSS permit for an existing lot of record, where densities exceed 1 unit per acre, nitrogen removal must be addressed.**

- Bill Peacock stated that an assessment must be made to see if nitrogen is an issue, definition needs to be developed as to what conditions indicate nitrogen sensitivity. He suggested that if nitrogen is a known problem or if there are densities greater than "X", then nitrogen must be addressed. The problem shouldn't be exacerbated.
- Steve Wecker asked several questions: Who's going to address nitrogen? Who's qualified t address nitrogen? Couldn't this get expensive? What realistically can we do to address nitrogen?
- Melanie Kimsey stated that items other than those mentioned by Bill need to be addressed.
- Kevin Barry suggested the committee might be on a "slippery slope" when existing lots of record are considered.
- Tom Rogers asked whether the committee should be looking separately at new subdivisions and existing lots of record.
- Steve Wecker stated that areas with known nitrogen problems should be declared sensitive areas by local jurisdictions.
- What does it mean to "address" nitrogen?

c. **Motion:** by Bill Peacock - Prior to approval of new subdivisions, where densities exceed 1 unit per acre, nitrogen removal must be addressed.

- **Second:** Mike Vinatieri
- **Vote:** Yes – 8, No – 0

d. **Motion:** by Mike Vinatieri - Prior to issuance of an OSS permit for an existing lot of record, where densities exceed 1 unit per acre, nitrogen removal must be addressed.

- **Second:** None, motion died

e. Melanie Kimsey handed out a chapter from the DOE permit writer's manual (Chapter VIII. Deriving Water Quality-Based Effluent Limitations for the Protection of Ground Water Quality). See **Item #5**.

f. **Motion:** by Bill Peacock – Prior to approval for OSS on existing lots of record exceeding densities of 1 unit/acre, where nitrogen degradation has been identified, nitrogen removal must be addressed.
   - **Second:** by Melanie Kimsey
   - **Vote:** Yes – 7, No – 1 (Kevin Barry)

Day 2, February 6, 2003

3. **Technical Issue #7A – Lot Sizes (Minimum Land Area), together with Technical Issue #23 – Nitrogen (continued)**
   a. Selden Hall reviewed the nitrate data he received from DOH drinking water. No significant trends of increasing nitrate concentrations were found in the wells of four different depths (0 – 50 feet, 15 – 50 feet, 51 – 100 feet, and 101 – 150 feet) could be found. See **Item 4**.
   b. The committee did acknowledge concern that 10-12% of the shallow wells did contain more than 5 mg/L of nitrate nitrogen.
   c. Melanie Kimsey briefly summarized her handout, On-site Sewage Impacts to Ground Water Quality. See **Item #6**.
   d. Dave Lenning indicated, after his discussions with Melanie, that DOE did not have any trend analysis showing what was happening to nitrate levels in the ground waters of the state.
   e. **Recommendation #2: In table VII for new proposed subdivisions, have gross densities of 2 units (unit volume = single family home, mobile home site in a mobile home park, or 450 gpd where development is not single family residences or a mobile home park) per acre for all soil types in the Public Water row.** Without a formal motion, the committee unanimously agreed with their former vote.
   f. **Recommendation #3: In table VII for new proposed subdivisions, have a minimum gross density of 1 unit (unit volume) per acre for all soil types in the individual well row.** Without a formal motion, the committee unanimously agreed with their former vote. Dave Lenning asked for clarification – whether this meant 1 acre across the board, even where there currently is 2.5 and 2 acres. The committee responded, "Yes."
   g. Steve Wecker stated that, as a RDC member, he would have a problem voting for the recommendations because the data doesn't show there is a problem.
   h. Mike Vinatieri stated that small lots are definitely a problem in Clark County.
   i. Bill Peacock stated that no permits for septic tanks on any lot size are permitted in the City of Spokane.
   j. Kevin Barry suggested that the Growth Management Act is making this a moot issue in most counties in Washington State.
   k. Dave Lenning indicated the dilemma he will face when presenting this issue to the RDC. The TRC recommendations are supported by technical research. However, we don't have the water quality data that indicates increasing nitrate concentrations in the ground waters of Washington State. Also, a significant number of states still allow small lots.
   l. Melanie Kimsey suggested that a brief issue paper be developed to properly present this issue and that she and others were willing to provide assistance.
   m. **Recommendation #4: Delete Method2**

- **Motion:** by Kevin Barry – Reaffirm the previous recommendation of deleting method 2
  - **Second:** Mike Vinatieri
  - **Discussion:**
    - Selden reviewed the potential consequences of deleting the current method 2 as noted in his handout (**Item 4**)
    - Kevin Barry stated he has never used a Method 2 in any of the counties in which he has worked in Washington State. If you have a minimum lot size stated in the rules, staying at that minimum is the responsible thing to do.
    - Tom Rogers indicated that if a developer has sufficient monies, a responsible analysis can be developed to develop smaller lots in developments.
  - **Vote:** Yes - 7, No – 1 (Tom Rogers)

n. **Recommendation #5: Retain those sections from the current method 2 that still should apply to method 1.** Without a formal motion, the committee unanimously agreed with their former vote.

4. **Technical Issue #1 – Treatment Standards 1 & 2**

a. Mark Soltman reminded the committee that the department was using past TRC decisions based on testing of all parameters for the entire "treatment train." He asked how long we should continue using "add-on" disinfection, untested equipment.

b. Kevin Barry asked if we need to decide this now or can we wait until a guidance document has been revised or developed. He stated that if we want all parameters tested, it should be in the rules (Mark agreed).

c. Bill Peacock stated that we know how chlorine and ultraviolet work. He asked where we draw the line on how well a technology functions when there is a proven, science-based technology and a "black box."

d. Keith Grellner indicated that 40% of systems in Kitsap County are alternative systems. Problems are created when they don't have good data the systems are working, especially those using disinfection. People get frustrated spending dollars when they're told units aren't functioning.

e. Mark Soltman stated that the fact remains – in order to meet some standards, disinfection will be required.

f. Laura Benefield indicated that until now, we've not had any protocol in rule for adequately testing disinfection units. ETV provides a way for this to be done for municipal disinfection units, however for residential use ETV applies only for units >1500 gpd.).

g. Laura Benefield reminded the TRC that the decision regarding tested and untested treatment trains had already been made. The TRC had previously decided (May 30, 2001) that there was a greater level of assurance with a tested treatment train than untested equipment. The TRC had recommended to DOH that all treatment trains seeking to meet 10/10/200 or 10/10/800 must be tested in accordance with NSF Standard 40 with fecal coliform sampling at a minimum of 3 times per week. DOH accepted this recommendation and has been enforcing this since that time. There are manufacturers currently undergoing testing with NSF in compliance with this protocol.

h. Where we are testing a "treatment train" consisting of an ATU and a disinfection unit, where we do have a testing protocol for a typical parameter (CBOD, TSS), and where the output of one unit (ATU) meets the input requirements of the next

unit (disinfection), there is a match. But, will that give us verifiable performance information for the disinfection unit, even if we know the general design parameters for disinfection?

i. Now, add-on disinfection units are assumed to work and nothing is required, except for those situations where they've been tested as part of a "treatment train."
j. Maybe we should require some testing for individual disinfection units.
k. Mark Soltman suggested a good strategy would be to fine tune the treatment levels so we add levels of technology that do not require disinfection. For those situations still requiring disinfection, testing of the entire "treatment train" should be required.
l. Keith Grellner questioned the need for fecal coliform numbers if horizontal setbacks and at least a foot of unsaturated soil below the drainfield can be maintained.
m. Eric Knopf suggested the committee should look at the possible use of treatment level D (primarily defining quality to take advantage of increased loading rates) on some sites.
n. Mark Soltman provided another perspective. Maybe this isn't the problem we're making it out to be. If a specific disinfection unit is tested as part of a treatment train, maybe similar disinfection units can replace the one included in the testing.
o. Tom Rogers suggested that this could be the testing entity's call - in the case with ATUs, it would be NSF. This may negate the need for retesting with new disinfection units.
p. Steve Wecker asked if we go one way (a pretreatment unit can mix and match with other disinfection units), could we also go the other way (a disinfection unit may mix and match with other pretreatment units).
q. What's needed to take this forward?
    - Technologies need to be given time for whatever testing may be required.
    - DOH needs to take a look at testing methodologies again and report back.
    - Decisions need to be made on how to deal with "add-on" disinfection, both with proprietary and public domain products.
    - SWRAs need to be better defined/sensitive areas need to be better articulated.
r. Dave Lenning indicated that the current time frames would not allow recommendations to be made at the April committee meeting and sufficient lead time to properly prepare the RDC for its April meeting. After further discussion, a 1-day meeting on Wednesday, March 12th, was added. The sole purpose of this meeting is to finalize recommendations pertaining to treatment levels and their application.
s. Laura Benefield spoke to NSF and reported that NSF would currently not allow (i.e. certify or approve) for mixing and matching of pretreatment units and disinfection units. Each pretreatment unit would need to be tested with each disinfection unit. They also do not currently have a disinfection protocol that would achieve testing "stand alone" disinfection equipment. They are in the process of developing a protocol that may allow for mixing and matching but that is not currently available. NSF indicated that no timeline has currently been set.

5. **Technical Issue 24A – Wastewater tanks**
    a. Mark Soltman briefly talked about the Department decisions for handling septic tanks
        - Options that are being considered include:
            - A separate chapter of the WAC for septic tanks of all sizes.

- Be part of the LOSS WAC/standards.
- The Department would like the TRC to discuss septic tanks and develop recommendations after reviewing the work of a committee that developed draft documents in 1996 and 1997. Depending on the timing, consideration of a separate WAC may be dovetailed with the current WAC revision process.

b. Mamdouh El Aarag led a discussion using a handout noting the questions and comments that the committee had during the December 2002 meeting. See **Item 7**. The item includes a draft of the 1997 draft septic tank standards developed by a DOH committee, as well as a copy of the PowerPoint presentation on wastewater tanks given during the December 2002 meeting. This presentation summarized primary topics concerning wastewater tanks and what the 1997 draft said, what other states have in their regulations, and what the various national standards say.

c. Discussion and actions taken include:

- Liquid capacity
  - **Motion:** by Bill Peacock – The minimum volume for commercial (anything other than residential) septic tanks shall be three times the daily flow.
    - **Second:** Kevin Barry
    - **Discussion:**
      - Tom Rogers stated that changing this from 1.5 daily flow will increase costs.
      - Bill Peacock indicated the increased size will allow for the variable flows that typically occur
      - Eric Knopf suggested that maybe the minimum tank volume should be increased even more.
      - Scott Jones had left his written notes since he couldn't attend the second day of the meeting. The notes reminded the committee that tankage is a relatively inexpensive process
    - **Vote:** Yes – 5, No – 2 (Glenn Herriman & Tom Rogers)
  - The committee agreed that minimum septic tank volumes for residential development, other than for a single family residence, should remain 1.5 times the daily design flow.
  - Glenn Herriman suggested that the realistic minimum septic tank volume is 1000 gallons. 1000 gallons should, therefore, be specified as the minimum volume septic tank for single-family residences.
  - Dave Lenning noted that the 2002 USEPA manual suggests a minimum of 750 gallons for 1-2 bedrooms, 1000 gallons for 3 bedrooms, 1200 gallons for 4 bedrooms, with an additional 225 gallons for each additional bedroom. This applies to 1-2 dwellings.
  - **Motion:** by Glenn Herriman – The minimum septic tank volume should be 1000 gallons. This motion is subject to investigation by DOH staff. If no 900 gallon tanks are manufactured, then the minimum should be 1000 gallons.
    - **Second:** Eric Knopf
    - **Discussion:**
      - Tom Rogers stated that we should not change the minimum volume until we know what effect this change may have on septic tank manufacturers. This resulted in an amendment to the motion, resulting in the motion above.

    - **Vote:** Yes – 7, No – 0

- Garbage grinders
    - Mike Vinatieri indicated his concern with adding more volume when a garbage grinder is used. He's comfortable with the current volumes. He recommends we require effluent filters and increase the monitoring frequency when garbage grinders will be used.
    - Bill Peacock indicated that some of the new dishwashers include their own garbage grinder.
    - Eric Knopf recommended that the committee say garbage grinders should not be used. OSS will function better if garbage grinders are not used.
    - **Motion:** by Kevin Barry – Ban garbage grinders.
        - **Second:** Melanie Kimsey
        - **Vote:** Yes – 2 (Kevin Barry and Melanie Kimsey), No – 5
    - **Motion:** by Mike Vinatieri – The committee pass a statement that 1) Eliminating garbage grinders will improve wastewater system performance; 2) The use of garbage grinders is not recommended; 3) If a garbage grinder will be used, an effluent filter and annual monitoring of the solids levels in the septic tank should be required.
        - **Second:** Eric Knopf
        - **Vote:** Yes – 5, No – 2 (Kevin Barry & Tom Rogers)
- Grinder/Solids pumps
    - John Eliasson stated that the volume of a dose to a septic tank affects the size of the receiving tank.
    - Bill Peacock suggested that DOH staff look at the velocities of a 2-inch diameter discharge into a tank and compare it with a 4-inch diameter inlet baffle/tee.
    - **Motion:** by Kevin Barry – Drop the issue. It's not an actual concern. Make sure there's a requirement for a 4-inch discharge into the tank.
        - **Second:** Bill Peacock
        - **Vote:** Yes – 7, No- 0
- Compartments
    - The 2002 USEPA manual suggests a length to width ration of 3:1 or greater to reduce short-circuiting, thereby increasing TSS removal.
    - Bill Peacock suggested that DOH staff talk to manufacturers and see if a change from an L: W ratio from 1.25 to 1.5 will cause problems.
    - Tom Rogers pointed out that the 1997 draft (developed by a committee on which he sat) was developed with input from the manufacturers. They settled on a minimum of 1.25 for tanks less than 3,000 gallons and 1.5 for tanks greater than 3,000 gallons.
    - **Motion:** by Mike Vinatieri – Accept the recommendations in the 1997 draft
        - **Second:** Kevin Barry
        - **Vote:** Yes – 7, No - 0
- Intercompartmental flow devices
    - Tom Rogers reported that ports or slots are more frequently used across the US rather than sanitary tees.
    - The committee was reminded that slots and ports are not used in Washington State.
    - **Motion:** by Eric Knopf – Slots, ports and tees should be allowed.
        - **Second:** Kevin Barry
        - **Vote:** Yes – 7, No – 0

- There is a need to explore the diameters and locations of ports and slots.

- In 3 compartment tanks – using the 3rd compartment as a pump chamber
  - The 1997 drafts says, "In the event the dosing chamber is designed as a third chamber in the septic tank, the wall separating the septic tank and the dosing chamber must be designed to withstand all loads against the wall in the event the dosing chamber is empty. The separating wall must be watertight not allowing liquid to move from one compartment to the other except through the wall fittings.
  - The committee agreed with the draft's language.
- Access
  - The question was asked, "What should the minimum opening for cleaning septic tanks be?"
  - **Motion:** by Glenn Herriman – The minimum diameter for an opening in a septic tank should be 24 inches.
    - **Second:** Mike Vinatieri
    - **Vote:** Yes – 6, No – 0
- Risers
  - The 1997 draft recommends classification of septic tanks into two categories: Class 1 and Class 2. These classifications are given depending on how far up toward the top of the tank and riser the tank is watertight.
  - One suggestion was that we stay generic – be watertight.
  - Selden Hall suggested that both of the following should be specified – be watertight and able to withstand expected stresses.
  - Pete Lombardi indicated his belief that the recommended structural requirements for septic tanks are not adequately addressed.
  - **Motion:** by Kevin Barry – Accept the 1997 draft recommendation – All access and inspection opening lids, access risers and riser seams must be watertight in Class 1 tanks.
    - **Second:** Glenn Herriman
    - **Vote:** Yes – 6, No – 0
- Long-term structural integrity, especially screw holes
  - The committee decided that no decision was needed.
- Watertightness – need for Class 1 and Class 2 tanks
  - **Motion:** by Bill Peacock – All septic tanks approved for use in Washington should be watertight to the maximum extent, either internal or external. Remove the mention of Class 1 and Class 2.
    - **Second:** None received – motion died.
  - **Motion:** by Kevin Barry – accept 1997 draft recommendations
    - **Second:** Mike Vinatieri
    - **Vote:** Yes – 5, No – 1 (Eric Knopf)
- Onsite water testing of tanks
  - After brief discussion, the committee decided to put this off until the April meeting. DOH is to get them copies of the draft installation standards that were developed by the same committee that developed the 1997 draft.
- Flexible watertight joints
  - Kevin Barry suggested that this should apply to class 1 tanks.
  - The committee decided to discuss this again at its April meeting. DOH staff should get copies of the ASTM standards for these materials to the

committee members, as well has have samples of different gaskets and sand collars.

- Structural
  - This was briefly discussed. No decisions were made.
- Materials
  - **Motion:** by Mike Vinatieri – Steel tanks should not be allowed in Washington.
    - **Second:** Kevin Barry
      - **Vote:** Yes – 5, No – 0, Abstain - 1

ADMINISTRATIVE/OTHER ISSUES

1. A special meeting at the same location in Ellensburg on March 12, 2003 from 10:00 am until 4:00 pm. This meeting will be for the purpose of discussing treatment levels and their application.
2. The next regularly scheduled meeting will be April 9-10, 2003 at the same location in Ellensburg.
3. The meeting was adjourned

MEETING MATERIALS[1]

Meeting Agenda – December 4-5, 2002

Item #1 – TRC Decisions as of January 1, 2003 – submitted by David Lenning

Item #2 – Pre-treatment System Performance Levels (Technical Issue #1)– submitted by Mark Soltman and John Eliasson (includes changes from the current WAC)

Item #3 – Environmental and Public Health Impacts from Phosphorus Discharges to Ground Water from Residential On-Site Sewage Systems – submitted by Melanie Kimsey

Item #4 – Review of TRC Decisions on Lot Size and Nitrate Data from DOH Drinking Water Database – submitted by Selden Hall

Item #5 – Chapter VIII. Deriving Water Quality-Based Effluent Limitations for the Protection of Ground Water Quality – submitted by Melanie Kimsey

Item #6 — On-site Sewage Impacts to Ground Water Quality - submitted by Melanie Kimsey

Item #7 – Responses to committee comments/questions on septic tanks, Draft 1997 Standards for On-site Wastewater System Tanks, PowerPoint presentation of December 5, 2002 – submitted by Mamdouh El Aarag

[1] All listed meeting materials are maintained by the Department of Health in a meeting manual entitled: *Technical Review Committee Meeting, February 5-6, 2003.* For further information, please contact the Department of Health's Wastewater Management Program at (360) 236-3062.